

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**  
**INFORMATION EXCHANGE FOR MARINE EDUCATORS**

**FEBRUARY 2008**

This update is provided with support from NOAA's Office of Education and by the National Marine Protected Areas Center to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs.

Please share this email with your colleagues and constituents. If you request materials or respond to a request for information, please mention that you learned about it from NOAA's Information Exchange.

The information included here has been compiled from many different sources, including EE-NEWS@NAAEE, EEinGEORGIA, CREEC, the Scout Report, edinfo at FREE, scuttlebutt, NSTA Express, and others. We have verified web addresses, but make no guarantee that they will remain active. The Department of Commerce/NOAA does not necessarily endorse or promote the views or facts presented on these sites.

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Collected archives of the information presented in past newsletters are available at [http://mpa.gov/helpful\\_resources/education\\_training.html](http://mpa.gov/helpful_resources/education_training.html). Contact the editor directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074, to discuss further enhancements or to contribute information for future issues.

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## **Notable References**

### **Convention on Migratory Species Family Guide**

The encyclopedia of the Convention on Migratory Species is now available online. The guide has fact sheets explaining the history and structure of the convention along with some of the species the Convention seeks to conserve. Additional sections cover threats and challenges to migratory species, interagency outreach (e.g. World Migratory Bird Day), and more. The package of facts sheets can be downloaded in pdf format in eight sections.

[http://www.cms.int/publications/family\\_guide.htm](http://www.cms.int/publications/family_guide.htm)

### **Natural Resource Technical Reports**

The National Park Service offers the Natural Resource Publication series, which addresses topics that are of interest and applicability to a broad readership in the National Park Service and to others in the management of natural resources, including the scientific community, the public, and the NPS conservation and environmental constituencies. Manuscripts are peer-reviewed to ensure that the information is scientifically credible, technically accurate, appropriately written for the audience, and designed and published in a professional manner. The reports provide contributors with a forum for displaying comprehensive data that are often deleted from journals because of page limitations. Posted reports include the results of research that addresses natural resource management issues; natural resource inventory and monitoring activities; resource assessment reports; scientific literature reviews; and peer reviewed proceedings of technical workshops, conferences, or symposia. Check out the report from the National Parks and Caribbean Marine Reserves Research and Monitoring Workshop.

<http://www.nature.nps.gov/publications/NRPM/nrtr.cfm>

### **WEBSITE OF THE MONTH AND REQUEST FOR COLLABORATION**

#### **TerraLook**

Landsat and other satellite sensors have been collecting images of Earth from space for more than 30 years. For the most part, use of this data has been limited to the scientific and land management communities. TerraLook was developed to broaden the population of satellite image users by providing both ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) and Landsat data as free, georeferenced, simulated natural-color JPEG images for users that lack prior experience with remote sensing or Geographic Information System (GIS) technology. It does this by combining collections of images on user-defined themes with simple software for visualization and analysis, allowing the user to explore the data and employ it for useful purposes. The images include recent high-resolution ASTER images, plus Landsat images from several historical periods going back to the early '70s. Such historical data supports change analysis.

TerraLook consists of two parts: collections of images, and free (optional) software to work with them. Users can create their own custom collections or download some of the country-wide collections that already exist. These collections consist of readily usable remotely sensed images designed for visual interpretation and are distributed at no cost to the user. Users who need to perform detailed digital analysis can acquire the source data. TerraLook collections are compatible with most GIS and web mapping applications.

<http://terralook.cr.usgs.gov/index.php>

<http://asterweb.jpl.nasa.gov/terralook.asp>

**Readers, please note:** they are looking to increase their engagement with the education community. Interested teachers should contact Gary Geller at

[Gary.N.Geller@jpl.nasa.gov](mailto:Gary.N.Geller@jpl.nasa.gov)

## MESSAGE FROM THE BRIDGE

### Plan Your Summer with the Bridge

It is time to start planning your summer experiences, and the Bridge can help. The Bridge contains summer opportunities and year-round courses, workshops, and other programming for educators and students. The summer is a great time for students and teachers to learn outside of the classroom, meet new friends and colleagues, and see new places. Each program on the Bridge is complete with a link and brief description, and because we are constantly adding new resources and opportunities, we suggest checking back often. Those with new, exciting summer programs that are not currently found on the Bridge are encouraged to submit their website for inclusion.

The Bridge: <http://www.marine-ed.org/bridge>

Educator Summer Programs: [http://www.marine-ed.org/bridge/index\\_teacher\\_summer.html](http://www.marine-ed.org/bridge/index_teacher_summer.html)

Student Summer Programs: [http://www.marine-ed.org/bridge/index\\_summer.html](http://www.marine-ed.org/bridge/index_summer.html)

## REQUESTS

### Extension, Outreach, and Education Report Available for Comment

NOAA has published the preliminary report of the Extension, Outreach, and Education Working Group's external review of NOAA's activities in extension, outreach, and education activities for public comment. Comments must be received by February 15, 2008.

<http://www.sab.noaa.gov/Reports/>

### Looking for Summer Opportunities

The National Marine Educators Association features summer opportunities for teachers in the spring issue of NMEA News. If you would like to submit an opportunity for teachers and/or their students, please send a paragraph describing the workshop or field trip and a contact person. Individual articles are limited to 50-60 words - please keep articles concise and refer to websites for more information. Please submit articles by February 8, 2007.

Email the articles to [nmea@usm.edu](mailto:nmea@usm.edu)

### MERITO Program Curriculum Developer

The Multicultural Education for Resource Issues Threatening Oceans (MERITO) program at Channel Islands National Marine Sanctuary and Monterey Bay National Marine Sanctuary is expanding its education content on environmental emerging issues and resource protection strategies for 4th-8th grade level students to use in the classroom and in the field. They seek a curriculum developer to create educational curriculum for a module titled *Everything is connected* for the MERITO Academy curriculum/activity guide, to solidify student and teacher awareness of their personal connection to the ocean. This module will be used at both sanctuaries and will include lesson plans on the following topics: climate change, marine debris, habitat loss, overfishing and by-catch, and finding solutions.

Interested applicants please submit a cover letter, a resume, and writing/curriculum sample via email to [Rocio.Lozano@noaa.gov](mailto:Rocio.Lozano@noaa.gov).

### National Sustainability Education Standards Available for Comment

The United Nations has declared 2005-2014 the Decade of Education for Sustainable Development. The U.S. response to the decade is being spearheaded by the U.S.

Partnership for Education for Sustainable Development. The K-12 sector team of the U.S. Partnership, with input from educators in public, private, and pre-service fields, has generated a draft set of national sustainability education standards and is seeking feedback on these standards. Download the draft standards, then click on "submit your comments" to provide feedback online.

[http://www.uspartnership.org/index.php?option=com\\_frontpage&Itemid=1](http://www.uspartnership.org/index.php?option=com_frontpage&Itemid=1)

### **Project TestDrive – Teachers Wanted**

Project TestDrive is a national research study on the classroom effectiveness of the online K-12 science, technology, engineering, and math resources from the National Science Digital Library (NSDL). During the school year, teachers will select, use, and evaluate a maximum of 10 online resources from the library. Project Tomorrow will work with teachers to facilitate the TestDrive process, conduct focus groups, and summarize and present findings to NSDL partners. Hurry - apply by February 7, 2008.

<http://www.tomorrow.org/programs/testdrive.html>

### **Seeking Mentors**

The Institute for Educational Advancement is seeking mentors in Marine Biology and Oceanography for its summer 2008 program for high school students in the San Francisco/Bay and Los Angeles areas in California.

<http://www.educationaladvancement.org/>

### **Volunteers Wanted for Derelict Crab Trap Removal Program - Louisiana**

Barataria-Terrebonne National Estuary Program and the Louisiana Department of Wildlife and Fisheries will conduct their annual Derelict Crab Trap Removal Program, February 23-Mar 2, 2008. This program needs volunteer help to remove derelict or abandoned crab traps from their marsh areas.

<http://www.derelictcrabtrap.net/>

## **GRANTS AND OPPORTUNITIES**

### **American Stars of Teaching**

American Stars of Teaching recognizes and honors superior teachers with a track record of improving student achievement, using innovative instructional strategies, and making a difference in the lives of their students. These teachers will be highlighted as representatives of the thousands of teachers who are making a difference in the classroom. The deadline for submission of nominations is March 31, 2008.

<http://www.t2tweb.us/AmStar/About.asp>

### **American Trails' National Trails Awards Program**

Every two years, American Trails presents the National Trails Awards to recognize the contributions of volunteers, professionals, businesses, and other leaders who are working to create a national system of trails. Two new awards will be presented at the 19th National Trails Symposium for Best Trails State Award and Community Service Award, among the 12 other categories. Nominations should cover accomplishments during the period of June 1, 2006-May 31, 2008. The deadline for nominations is May 31, 2008.

<http://www.americantrails.org/2008/awards.html>

### **Captain Planet Foundation Grants**

The Captain Planet Foundation provides grants to school and community groups to support hands-on environmental projects for youth in grades K-12. The objective of the foundation is to encourage innovative programs that empower youth around the world to work individually and collectively to solve environmental problems in their neighborhoods and communities. Deadlines for submitting grant applications are March 31, June 30, September 30, and December 31 of each year.

<http://www.captainplanetfdn.org/grants.html>

### **Christopher Columbus Awards**

The Christopher Columbus Awards is a national, community-based science and technology program for middle school students. The program challenges the students to work in teams of three to four, with an adult coach, to identify a problem in their community and apply the scientific method to create an innovative solution to that problem. The deadline for application is March 17, 2008.

<http://www.christophercolumbusawards.com/>

### **Community Action for a Renewed Environment Grants**

The EPA funds Community Action for a Renewed Environment (CARE) grants, a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. The deadline for application is March 17, 2008.

<http://www.epa.gov/care/>

### **Earthwatch Education Fellowships, Awards, and Alternative Funding**

Earthwatch expedition fellowships are awarded through a competitive application process. When considering applications, the applicant's geographic region and the potential impact of participating on an Earthwatch expedition are taken into consideration. Hurry – 2008 expedition fellowship applications should be submitted prior to February 15, 2008 for preferential review. The deadline for application to the LyondellBasell award is March 14, 2008. Student fellowships are also available.

<http://www.lyondell.com/Lyondell/communityinvolvement/CommunityPrograms/Earthwatch/index.htm>

<http://www.earthwatch.org/educators/fellowships>

<http://www.earthwatch.org/student/fellowships.html>

### **Environmental Hero Awards**

NOAA's Environmental Hero Awards honor non-NOAA individuals and organizations that volunteer their time to help NOAA carry out its mission, which is to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs. Not only do the awards raise awareness about NOAA's mission, but they also encourage others to participate in NOAA volunteer programs. Hurry - the deadline for nomination is February 15, 2008.

<http://www.noaa.gov/earthday/nomination.html>

### **Environmental Literacy Grants for K-12 Education**

NOAA's Office of Education is requesting applications for environmental literacy projects in support of K-12 education. Funded projects will be between 1- 5 years in duration and

will promote changes in K-12 education to expand the amount of Earth System Science taught in the classroom and improve student learning and application of that subject. Successful projects will catalyze change in K-12 education through development of new programs and materials, by revision of existing programs and materials, by supporting transformative methods that expand or lead to the expansion of the use of Earth System Science in K-12 classrooms, and provide opportunities for the application of that knowledge to environmental issues relevant to the target audience. Projects are encouraged to incorporate NOAA data, data visualizations, and resources and to further the use of Earth System Science concepts related to NOAA's mission goals. Projects are also encouraged to collaborate with NOAA entities as partners and connect to projects previously funded by NOAA's Environmental Literacy Grants. Hurry: the deadline for pre-proposals is February 20, 2008; full proposals are due June 25, 2008. [http://www.oesd.noaa.gov/funding\\_opps.html](http://www.oesd.noaa.gov/funding_opps.html)

### **Knauss Fellowship Reminder**

The Knauss Fellowship provides a unique educational experience to students who have an interest in ocean, coastal, and Great Lakes resources and in the national policy decisions affecting those resources. The deadline for application is February 29, 2008. <http://www.seagrant.noaa.gov/knauss/>

### **Intel Schools of Distinction Program**

The Intel Schools of Distinction Program to Honor Excellence in Math and Science Education honors U.S. schools that have demonstrated excellence in math and science education. There are awards for one elementary, one middle, and one high school in each of two categories - math and science. Hurry, the deadline for application is February 14, 2008. Check the website for additional funding opportunities. <http://www.intel.com/education/schoolsofdistinction/index.htm>

### **More Kids in the Woods**

The U.S. Forest Service *More Kids in the Woods* projects are part of a continuing effort to improve children's health by reconnecting them to nature. Projects need to engage non-federal partners with at least a 1:1 match of in-kind or cash contributions. Educators, parents, land managers, physicians, and others who work with children are encouraged to apply. The deadline for proposals is February 15, 2008. Contact your nearest Forest Service office to discuss potential projects. <http://www.fs.fed.us/>

### **Motivating Undergraduates in Science and Technology**

The MUST (Motivating Undergraduates in Science and Technology) program is open to all U.S. citizens who are pursuing an undergraduate degree in a science, technology, engineering, and mathematics discipline at a college or university that is accredited in the United States. Students of all underrepresented groups are encouraged to apply. The deadline for application is March 1, 2008. <http://scholarships.hispanicfund.org/applications/subsectionID.1,pageID.139/default.asp>

### **National Association of Biology Teachers Awards**

The National Association of Biology Teachers recognizes excellence in teaching with a variety of awards, including the Ecology/ Environmental Science Teaching Award. Check the website for information about the different awards and their deadlines. The environmental teaching award deadline is March 15, 2008. <http://www.nabt.org/sites/S1/index.php?p=290>



### **National Park Service Fire Photo Contest**

The National Park Service Fire Photo Contest is in its fifth year. Entries will be accepted for a variety of categories, including wildland fire, prescribed fire, and more. Any individual with photos of fire activities in National Park Service areas from October 1, 2006-December 31, 2007 are eligible to participate. Hurry – the deadline for entry is February 8, 2008. Submit digital images in tif, jpg, bmp format. View a selection of past entries at [http://www.nps.gov/fire/public/pub\\_photogalleries.cfm](http://www.nps.gov/fire/public/pub_photogalleries.cfm). Contact Tina Boehle at [tina\\_boehle@nps.gov](mailto:tina_boehle@nps.gov) for full information.

### **Presidential Award for Excellence in Mathematics and Science Teaching**

The National Science Foundation seeks nominations for the Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST). This award honors exemplary K-12 mathematics and science teachers for their contributions to improving teaching and learning. This year elementary teachers are invited to apply (secondary teachers will be honored next year). The application deadline is May 1, 2008. <http://www.paemst.org/controllers/home.cfc?method=view>

### **River of Words Art and Poetry Contest**

River of Words is an international environmental poetry and art contest on the theme of watersheds. The contest is open to youth ages 5-19. The contest is designed to help youth explore the natural and cultural history of the place they live, and to express, through poetry and art, what they discover, designed to nurture respect and understanding of the natural world. U.S. entries must be postmarked by February 15, 2008; international entries are due by March 1, 2008. <http://www.riverofwords.org/contest/index.html>

### **Save Our History Grants**

Save Our History is a national history education and preservation initiative that raises awareness and support for preserving local heritage, created by The History Channel®. The program funds educational community preservation projects across the country. Teachers or youth group leaders, in partnership with museums, historical societies, preservation organizations, libraries, and archives are eligible to apply for grants to fund projects that help students explore and preserve their local history. Applications will be due June 2008. [http://www.history.com/minisite.do?content\\_type=Minisite\\_Generic&content\\_type\\_id=51650&display\\_order=3&mini\\_id=51103](http://www.history.com/minisite.do?content_type=Minisite_Generic&content_type_id=51650&display_order=3&mini_id=51103)

### **Wyland Clean Water Challenge Art Contest**

Wyland Ocean Challenge offers a nationwide art and science contest. Have your students create individual works of art or a giant group mural of any aquatic habitat with above and below the water views along with plants and animals that live in the habitat. The deadline for entry is March 21, 2008. <http://www.wylandcleanwaterchallenge.org/index.cfm?mid=4&sid=11>

### **Yoshiyama Award for Exemplary Service to the Community**

Each year, the Hitachi Foundation presents the Yoshiyama Award for Exemplary Service to the Community to ten high school seniors from around the United States. Activities must foster longer-term community change and be focused in socially and/or economically isolated communities. The deadline for application is April 1, 2008. <http://www.hitachifoundation.org/yoshiyama/>

## **INTERNSHIPS AND TEMPORARY OPPORTUNITIES**

### **Aquarium Summer Opportunities – North Carolina**

The North Carolina Aquarium on Roanoke Island has both seasonal and intern positions available for summer 2008.

Contact Dia Hitt at 252-473-3494 ext. 236

### **AustraLearn**

AustraLearn is a provider of study abroad programs to Australia, New Zealand, and the South Pacific. They are open to students attending college or university in the U.S. or Canada, who are of at least sophomore standing with a minimum 2.5 GPA. The program is also open to graduate students and adults. They have a variety of summer courses in addition to longer programs.

<http://www.australearn.org/>

### **California Mediterranean Research Learning Center Fellowship**

The California Mediterranean Research Learning Center facilitates and supports scientific and scholarly research in the California Mediterranean Network of national parks: Cabrillo National Monument, Channel Islands National Park, and Santa Monica Mountains National Recreation Area. Center programs are designed to support field research and enhance learning experiences in the in the physical, biological, ecological, social, and cultural sciences. The goal of this fellowship is to provide assistance for graduate students or upper division undergraduate students working to enhance the understanding of the natural and cultural environments of the California Mediterranean Network parks and the interface between human communities and parklands. Apply before March 1, 2008. Check out the details from last year's announcement.

<http://www.researchlearningcenter.com/pages/pdfs/FY07Studentfellowship.pdf>

### **Marine Ecology Lab Internships - Alabama**

The Marine Ecology Lab at the Dauphin Island Sea Lab has two summer and two fall 2008 internship opportunities available to qualified undergraduates or graduating seniors looking for experience in marine ecology. They seek applicants to help conduct research on several projects focused on seagrass restoration and monitoring, juvenile snappers and gag grouper habitat assessment, and ecosystem services of restored oyster reefs in Mobile Bay.

<http://marineecologylab.disl.org/intern.html>

### **Teacher to Ranger to Teacher**

The Teacher to Ranger to Teacher Program of the National Park Service focuses on the education community and engages teachers from schools that are not currently being reached with park programs, paying particular attention to areas with large, ethnically diverse populations. Teachers are detailed as park rangers to parks, spending the summer working and often also living in their park. Teacher-Rangers perform various duties depending on their interests and the needs of the park, including developing and presenting interpretive programs for the general public, staffing the visitor center, developing curriculum-based materials for the park, or taking on special projects. During the school year, Teacher-Rangers bring the parks into the classroom by developing and presenting curriculum based on their experiences. The website has a listing of parks



currently participating in the program. Other parks may choose to participate; contact them directly for more information.

<http://www.nps.gov/wupa/forteachers/trt.htm>

### **Thai Study and Internship**

The International Sustainable Development Studies Institute offers expedition-based courses and internship opportunities designed in collaboration with local communities. The program focuses on the links between culture, ecology, and sustainability through the experiential study of specific communities and ecosystems. The deadline for application is March 14, 2008.

<http://www.isdsi.org/fall08.html>

## **CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT**

### **Association of Zoo and Aquariums Annual Conference**

The 2008 Association of Zoo and Aquariums Annual Conference will be held September 15-18, 2008 in Milwaukee, Wisconsin. The program committee is accepting program proposals for sessions and posters for the conference in a variety of program tracks, including education. The deadline for submission is March 28, 2008.

[http://www.aza.org/ConfWork/AC\\_Intro/](http://www.aza.org/ConfWork/AC_Intro/)

### **California Islands Symposium**

The 7th California Islands Symposium, February 5-7, 2008 in Oxnard, California, is a forum for the presentation of natural and cultural resource information collected on all of the California Islands - the Channel Islands, the Farallones, and the Baja Mexican islands - and their surrounding marine environments.

<http://www.californiaislands.org/>

### **Climate Discovery Courses for Educators - Online**

The National Center for Atmospheric Research offers a series of six-week online courses for middle and high school science teachers, combining geoscience content, current climate research, easy to implement hands-on activities, and group discussion. Registration is open for the Spring term, April 4-May 16, 2008.

<http://ecourses.ncar.ucar.edu/>

### **Corals to Classrooms Workshop - Texas**

The Corals to Classrooms educator workshop, April 25-27, 2008 in Galveston, Texas, is sponsored by the Gulf of Mexico Foundation and hosted by the Flower Garden Banks National Marine Sanctuary. The workshop focuses on coral reef biology and ecology and includes information, resources, hands-on activities, and a field trip. The deadline for registration is April 18, 2008.

<http://flowergarden.noaa.gov/education/workshops.html>

### **Dauphin Island Sea Lab Summer Programs for Students and Teachers - Alabama**

Dauphin Island Sea Lab, Dauphin Island, Alabama, offers a wide variety of summer programs for students and teachers. Check the website for dates.

*For Students*

- Oceans Alive!: Half day beach exploration for children 5-8 years with parent;
- Treasure Island: Half day history treasure hunt for children 9-11 years;

- Gulf Island Journey: Marine summer camp on a barrier island for middle school students;
- Summer High School Course: Four week marine science course for high school students.

*For Teachers*

- The Delta: Explore the Mobile-Tensaw Delta;
- Beaches, Birds and Barrier Islands: A "three island tour" of Gulf Coast barrier islands;
- Sharks and Rays: Ins and outs of shark biology;
- Marine Applications of Science and Technology: Special, free teacher workshop for Alabama math or science teacher for grades 6-12; availability is limited.

*For College and Graduate Students:* Courses in this intense program will be offered from May to August.

<http://dhp.disl.org/newsite/>

### **EarthVision Summit**

The *EarthVision: Actions for a Healthy Planet* conference, April 24 - 27, 2008, in Washington D.C., is supported by The Student Conservation Association and geared towards young adults ages 15-25. Topics include countering climate change, connecting youth to nature, preserving parks and public lands, and more.

[http://www.thesca.org/earthvision\\_summit/](http://www.thesca.org/earthvision_summit/)

### **The Great Lakes Rock! - Online**

Centers for Ocean Sciences Education Excellence Great Lakes is offering this free online workshop, January 27-February 8, 2008, focusing on the geology of the lake basin and its relevance to the lakes themselves and the life of the region; the material will be available in archive form thereafter. Six presentations by experts will be offered over the workshop period, and the scientists will be available to answer questions related to their topics. Converse with the scientists and other educators, share experiences, and expand your understanding of Great Lakes science. Graduate credit is available. Be sure to check out this website and look through the links. Educational materials include invasive species, fisheries, Great Lakes background information with maps and photos, music, and much, much more. Great lectures!

<http://www.coexploration.org/coseegreatlakes/>

### **LiMPETS Workshop - California**

Join the Farallones Marine Sanctuary Association and Gulf of the Farallones National Marine Sanctuary for a workshop on the Introduction to LiMPETS: Sandy Beach Monitoring, March 8, 2008 in San Francisco, California. LiMPETS is an in-depth science education program for middle and high school students. Participants will learn to survey the distribution and abundance of the Pacific mole crab at one of the many monitoring sites along the coast of California, practice online data entry and analysis tools, and discuss ways to incorporate a monitoring program into an existing curriculum.

[http://farallones.org/education/teacher\\_workshops.php](http://farallones.org/education/teacher_workshops.php)

### **National Science Teachers Association**

The theme of the 2008 National Science Teachers Association Conference, March 27-30, 2008 in Boston, Massachusetts, is *Bridge to the Future*. The conference will feature the latest science content, research findings, and teaching techniques. Workshops

include NMEA's Whale of a Share-a-Thon, How to Host a Data Mystery, and much more.

<http://www.nsta.org/conferences/2008bos/>

### **Opening Doors to Water Trails 2008 Conference**

The purpose of this Water Trails conference is to convene water trail activists and advocates to share knowledge and network across the many organizations and agencies committed to water trails. Plan ahead - Opening Doors to Water Trails: 2008 Conference, hosted by the Washington Water Trails Association, will take place September 16-18, 2008 in Port Townsend, Washington.

<http://www.wwta.org/wtc/>

### **Society for Conservation Biology Annual Meeting**

The 2008 meeting of Society for Conservation Biology will take place July 13-17, 2008 in Chattanooga, Tennessee. The meeting, under the theme, From the Mountains to the Sea, will explore land conservation and terrestrial diversity, freshwater ecosystems, and coastal and marine conservation both as separate and connected entities.

<http://www.conbio.org/activities/meetings/2008/>

### **Waves, Wetlands, and Watersheds Educator Workshops - California**

Waves, Wetlands, and Watersheds is a classroom activity guide for teachers that addresses critical coastal and marine issues such as endangered species, marine debris, coastal geology, water use, and more. It is aligned to the California State Science Content Standards for grades 3 through 8, and includes Community Action lessons adaptable for all ages up to and beyond grade 12. The connection between inland areas and the ocean is emphasized throughout. Five free workshops are scheduled in California for March and April:

- Roseville, March 11, 2008; register by March 6, 2008
- Huntington Beach, March 31, 2008; register by March 25, 2008
- Santa Barbara, April 1, 2008; register by March 25, 2008
- San Luis Obispo, April 2, 2008; register by March 25, 2008
- San Francisco, April 15, 2008; register by April 10, 2008.

Contact Annie Kohut Frankel at [afrankel@coastal.ca.gov](mailto:afrankel@coastal.ca.gov)

### **World Recreational Fishing Conference**

The theme of the fifth World Recreational Fishing Conference, November 10-13, 2008 in Dania Beach, Florida, is *The Angler in the Environment*. They welcome submissions for oral and poster presentations, as well as suggestions for films, videos, and roundtable discussions from a multidisciplinary audience. The deadline for submission is February 15, 2008. Topics include climate change, inland and marine protected areas, community expectations and perceptions, and more.

<http://www.worldrecfish.org/>

## **EDUCATIONAL RESOURCES**

### **Adaptations from the Depths**

The Flower Garden Banks National Marine Sanctuary offers its Adaptations from the Depths curriculum, downloadable from the web. This curriculum, built on the 5E model, introduces elementary students to animal adaptations as they relate to the octopus. The full curriculum text, including reproducibles, or a separate document with just the

handout masters are available. Additional materials for this curriculum include full color posters of animal camouflage and a DVD of an octopus moving about on the reef in the FGBNMS, which can be mailed to you upon request, at no charge. Send an email with your mailing address to [flowergarden@noaa.gov](mailto:flowergarden@noaa.gov) to request the supplemental materials. Check out the website for other resources.

[http://flowergarden.noaa.gov/document\\_library/ed\\_documents.html](http://flowergarden.noaa.gov/document_library/ed_documents.html)

### **BiologyBrowser**

Biology Browser is a free website offering resources for the life sciences information community. You can browse by organism, subject, and geography. The Guide to the Animal Kingdom offers a simplified (and somewhat abbreviated) classification scheme for the whole animal kingdom. A searchable database offers links to information and resources for educators and students.

<http://www.biologybrowser.org/>

### **Bonaire 2008: Exploring Coral Reef Sustainability with New Technologies Expedition**

NOAA Ocean Exploration has launched the *Bonaire 2008: Exploring Coral Reef Sustainability with New Technologies Expedition* web page. The expedition, January 7-30, 2008, presented an opportunity to follow the journey to one of the few coral reefs that seems to have escaped the recent coral reef crisis. The website offers expedition and background information, lesson plans, career connections, multimedia resources, and more.

<http://oceanexplorer.noaa.gov/explorations/08bonaire/welcome.html>

### **Broadcasts from Monterey Bay**

Dr. Robert Ballard's Immersion Presents will broadcast live from the Monterey Bay National Marine Sanctuary in California from March 2-7, 2008. Live video feeds and educational materials will be available on the OceansLive.org web portal as the expedition team explores many of Monterey Bay's ecosystems, including estuaries, kelp forests, and deep submarine canyons.

<http://www.oceanslive.org/portal/>

### **CREEC Resource Directory**

Search for environmental education news and resources in California with the California Regional Environmental Education Community (CREEC) Networks' resource directory. Topics include community events, educational resources, training and professional development opportunities, grants/contests, and more. The resource directory offers links to over 2500 providers and resources of environmental education in California. Refine your search by county, bilingual availability, grade level, academic focus, and much more.

[http://creec.edgateway.net/cs/creecp/search/creec\\_res](http://creec.edgateway.net/cs/creecp/search/creec_res)

### **earthOCEAN.tv**

earthOCEAN.tv is an online channel about the marine environment. They produce educational videos from the field documenting environmental issues, scientific research, and conservation efforts around the globe. All videos programs are 10-20 minutes in duration and are freely distributed online in a number of formats through their website. There are also teacher's guides and fact sheets, including Disappearing Dolphins, Southern Right Whales of Argentina, and more.

<http://www.earthocean.tv>

### **Elephant Seals Homecoming Days**

In January, a couple of thousand female elephant seals began returning from the far reaches of the North Pacific Ocean to give birth to their pups on the beaches of Año Nuevo State Reserve in Northern California. To celebrate this migration, you and your students can witness and learn about the seals' 21,000-mile annual journeys during Elephant Seal Homecoming Days, sponsored by TOPP (Tagging of Pacific Predators), California State Parks, and California State Parks Foundation. The TOPP website features background information about research on the elephant seals at Año Nuevo State Reserve, lesson plans for teachers, links to pertinent parts of the Año Nuevo State Reserve site, and videos.

[http://www.topp.org/elephant\\_seal\\_homecoming\\_days](http://www.topp.org/elephant_seal_homecoming_days)

### **Exploring the Northwestern Hawaiian Islands**

Explore the Northwestern Hawaiian Islands through the eyes of graduate students as they study marine conservation in the remote, restricted Papahānaumokuākea Marine National Monument of the Northwestern Hawaiian Islands and spend three days learning about environmental issues on Oahu. The students offer blogs, photos, and videos from their trip, which took place January 13-25, 2008.

<http://www.nicholas.duke.edu/hawaii>

### **Microbial Life**

The Science Education Resource Center at Carleton College offers Microbial Life, focusing on the ecology, diversity, and evolution of microorganisms. Learn about marine microbes and extremophile microbes that live in inhospitable environments. Explore the Gulf of Mexico Dead Zone and red tide through case studies. Find out about microbial observatories and extreme environments.

<http://serc.carleton.edu/microbelife/index.html>

### **Ocean Communicators Workshop Report**

The Ocean Communicators Workshop, *Communicating Science*, was held August 20-21, 2007 in Santa Barbara, California, with communicators representing ocean-related agencies, organizations, and businesses in California. The workshop identified key messages for top ocean topics in California as well as provided workshop participants with expertise and experience in communicating those messages through new and traditional media outlets. The workshop report and useful information for communicating science to the public is available on the website.

[http://www.thankyouocean.org/oca\\_workshopdocs](http://www.thankyouocean.org/oca_workshopdocs)

### **Oceanic Research Group Resources**

The Oceanic Research Group, a non-profit environmental organization dedicated to ocean conservation, has produced several educational videos that can be viewed online. Film topics include coral reefs, adaptations, manatees, and more. In addition, the Wonders of the Sea section offers information about the biology of different kinds of animals. Check out *Sharks: Predators with a Purpose*, which discusses the importance of sharks in the marine ecosystem and the troubles that they face.

[www.oceanicresearch.org/education/films/predators.html](http://www.oceanicresearch.org/education/films/predators.html)

### **Our Environment and Ocean Literacy**

The National Geographic Society has expanded its *Our Environment & Oceans for Life* website. The website provides facts, news, and classroom activities for all teachers and

their students. Some resources include a multimedia teacher's toolkit; tools and resources to instruct students on the importance of a healthy environment; "green" actions to help preserve the environment; expert scientist reports; and more.

<http://www.ngsednet.org/oceans>

### **Southwick Associates Reports**

Southwick Associates specializes in economic and business statistics related to fish and wildlife. They help natural resource agencies and the outdoor industries understand the retail sales, economic impacts, and other benefits businesses and people receive from wildlife and fisheries. The website offers many downloadable reports and newsletters, including the 2006 Economic Impacts of Hunting and Fishing.

<http://www.southwickassociates.com/>

### **Treasures of NOAA's Ark: Shipwrecks!**

NOAA Heritage Week 2008 will highlight the agency's role in shipwreck exploration, resource protection, safe navigation, marine forecasting, and safety at sea during a special public exhibition, February 2-10, 2008 in Silver Spring, Maryland. *Treasures of NOAA's Ark: Shipwrecks!* features exhibits, a lecture series, video presentations, and hands-on activities for kids of all ages. The website offers a companion guide to the exhibition, featuring links to a wide variety of NOAA resources about shipwrecks, navigation, marine forecasting, educational materials, and more.

<http://www.preserveamerica.noaa.gov/heritageweek.html>

### **Walden Media Educator Guides**

Walden Media brings books to life on the movie screen. At the same time, they create downloadable lesson plans you can use with your students. The lesson plans are interdisciplinary, written by educators for educators, and comply with national standards in content areas and in character education as well. Where applicable, lessons also include an adaptation with suggestions for how to scale the lesson for use with younger students and/or with students for whom English is a second language. Check out Ghosts of the Abyss (exploration of the Titanic), the White Giraffe (wildlife, nature, and character motivation), and, coming soon, Nim's Island (ways to protect the ocean and how sanctuaries preserve these underwater treasures)

[http://www.walden.com/walden/walden/guide\\_matrix.php](http://www.walden.com/walden/walden/guide_matrix.php)

## **INITIATIVES, JOURNALS, and MORE**

### **Center for Ocean Solutions**

Stanford University, the Monterey Bay Aquarium, and the Monterey Bay Aquarium Research Institute have joined forces to create the Center for Ocean Solutions. In addition to developing new knowledge to solve ocean challenges, center researchers and staff will reach out to decision-makers from government, business, and the nonprofit sectors to translate the results of marine science and policy research into action. The center will also offer graduate-level educational and research opportunities. In addition, they will highlight these issues in the media, and sponsor outreach programs to inform and empower action by the general public and local, state, national, and international decision makers.

<http://www.centerforoceansolutions.org/>



### **CoastLines**

CoastLines, funded by the National Science Foundation, will introduce fundamental concepts about information technologies to grade 7-12 schools through geographic information systems (GIS) and global positioning systems (GPS), by conducting scientific studies of coastal ecosystems in the Long-Term Ecological Research network.  
<http://www.coastlines.ws/>

### **Coral Reef Messages**

Collaborative efforts resulted in a cohesive and relevant U.S. Messaging Campaign for the International Year of the Reef (IYOR). The website offers free, print-ready downloadable ads, as well as branded products like banners, t-shirts, re-usable cloth bags and water bottles, for use in branding IYOR 2008 campaigns. The materials offer coral conservation organizations the opportunity to unite and stand behind a consistent campaign to draw increased interest in coral reefs and educate the public about how each of our actions are tied to them. Free registration is required.  
<http://www.iyorcreative.com/iyor/index.php>

### **Deep ATRIS**

The U.S. Geological Survey has developed the Deep Along-Track Reef-Imaging System (Deep ATRIS) to support its mapping activities and the ground-truthing of acoustic, lidar, and satellite imagery of submerged coastal environments. Deep ATRIS is capable of surveying to depths of 30 meters and acquiring 12-bit color digital images at 9 frames per second. They offer Deep ATRIS on a cost-sharing basis to other researchers and resource managers. Possible applications include characterizing essential habitat, assessing the impact of disastrous events (storms, ship groundings, etc.), monitoring the progress of restoration efforts, and surveying submerged cultural resources.  
<http://coastal.er.usgs.gov/remote-sensing/advancedmethods/deepatris.html>

### **Marine Research Planning Workshops**

The Gulf of Mexico Sea Grant College Programs are planning a series of workshops in Gulf States to discuss priorities for a regional marine research plan. Anyone who sponsors or conducts Gulf of Mexico coastal or marine research or uses Gulf research findings is invited to attend a workshop. February workshops will be held in Florida, Louisiana, and Texas in February. Registration is required.  
<http://masgc.org/gmrp/workshop.htm>

### **Rare Earthtones - Endangered Species Ringtones**

The Center for Biological Diversity offers free endangered species ringtones and phone wallpapers, a collection of high-quality, authentic sounds and images of some of the world's most threatened birds, owls, frogs, toads, and marine mammals. Cell phone users - check this one out!  
<http://www.rareearthtones.org/ringtones/>

### **Whale Watch**

Through May 31, 2008, the public is invited to embark on a whale watch adventure through the Aquarium of the Pacific's educational whale cruise, in Long Beach, California. Explore the nearby seas to seek out the gray whale, bottlenose dolphin, sea lion, and a host of migratory waterfowl. The ocean adventure includes an educational multimedia presentation by a marine naturalist as well as various hands-on learning activities for all ages. The cost includes aquarium admission.  
[http://www.aquariumofpacific.org/education/programdetails/whale\\_watch/](http://www.aquariumofpacific.org/education/programdetails/whale_watch/)